

Appl. No. 09/595,256



PATENT APPLICATION

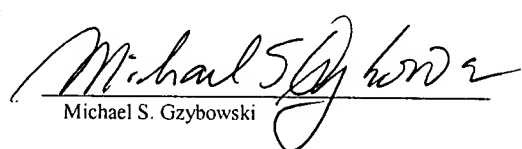
*IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

*Group*  
*Art Unit:* 3761  
  
*Attorney*  
*Docket No.:* 121027- 009  
  
*Applicant:* Yoshinori KUMASAKA  
  
*Invention:* DISPOSABLE DIAPER  
  
*Serial No:* 09/595,256  
  
*Filed:* June 15, 2000  
  
*Examiner:* Karin Reichle

Certificate Under 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner of Patents, Washington, D.C. 20231

on August 8, 2007

  
Michael S. Gzybowski

BRIEF ON APPEAL

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to Notification of Non-Compliant Appeal Brief mailed January 6, 2006 and further to Appellant's Notice of Appeal filed May 19, 2005 in connection with the above-identified application, Appellant resubmits the present, Amended Brief on Appeal.

REAL PARTY IN INTEREST

Appellant assigned this application to Uni-Charm Corporation in an assignment which was executed by the inventor on October 18, 2000, and recorded in the United States Patent and

Trademark Office on November 2, 2000 at Reel No. 011214 and Frame No. 0693.

#### RELATED APPEALS AND INTERFERENCES

There are no related cases involved in any appeal procedures or Interferences.

#### STATUS OF CLAIMS

Claims 1 - 6 and 8 are pending in this application. Claims 1 - 6 and 8 stand under Final Rejection, from which rejection of claims 1-6 and 8 this appeal is taken. Claim 7 has been canceled.

#### STATUS OF AMENDMENTS

An Amendment after Final was filed by appellant on April 15, 2005. In an Advisory Action mailed May 5, 2005 the examiner indicated that the Amendment after Final would be entered for purposes of the Appeal.

#### SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to a disposable diaper. As described in the second full paragraph on page 4 of appellant's original specification, the disposable diaper includes a topsheet 2, and a backsheet 3, a front waist region 6, a rear waist region 7 and a crotch region 8 that is longitudinally located between the front and rear waist regions (See Fig. 2), a waist-hole 16 and a pair of leg-holes 17 (See Fig. 1).

As described in the sentence bridging pages 4 and 5 of appellant's original specification, the front and rear waist regions 6, 7 respectfully comprise front and rear covering zones 21 and 22.

As shown in Fig. 2 the covering zones 21, 22 include a longitudinal ends at which longitudinal ends of each of the topsheet 2 and backsheet 3 are superimposed together continuously between the transversely opposite side edges of the diaper without any intervening structure between the topsheet 2 and backsheet 3, the covering zones 21, 22 further including a terminal longitudinal edge which coincides with terminal longitudinal edges of each of the topsheet 2 and backsheet 3.

As discussed in the paragraph bridging pages 5 and 6 of appellant's original specification, the front and rear waist regions 6, 7 are provided with elastic zones 18A, 18B which, as shown in Figs. 1 and 2, extend continuously along a full length in the circumferential direction of the front and rear waist regions 6, 7 so as to define at least part of the waist-hole 16.

As shown in Fig. 2, the elastic zones 18A, 18B have widths defined in a longitudinal direction and are attached to the covering zones 21, 22 so that a major portion of the width of the elastic zone extends beyond the terminal longitudinal edge of the covering zones. As further shown in Fig. 2 the elastic zones are nonmonolithically formed with the covering zones.

As described in the paragraph bridging pages 5-7 of appellant's original specification and illustrated in Fig. 2, the elastic zones 18A, 18B include a first member 31 that is elastically stretchable in the circumferential direction of at least one of the front and rear waist regions to a length "L" that is greater than a transverse length of the covering zone 21, 22. The first member 31 extend between and to the transversely opposite side edges of the diaper. A second member 32 covers the first member 31. The second member 32 also extends between and to the transversely opposite side edges of the diaper.

As further described in the paragraph bridging pages 5-7 of appellant's original specification and illustrated in Fig. 2 the second member 32 is inelastically stretchable to a length greater than the transverse length of the covering zone and attached to the terminal longitudinal edge of the covering zone so as to form gathers 33 that extend along the entire length of the at least one of the front and rear waist regions in the circumferential direction between and to each of the opposite side edges of the diaper.

As described on page 6, line 4 of appellant's original specification and illustrated in Fig. 2, the first member 31 comprises at least one rubber ribbon.

As described in the portion of appellant's original specification that bridges pages 6 and 7 of appellant's original specification, the second member comprises a sheet material that can have an initial length greater than the length of the covering zone or, alternatively equal to the length of the covering zone.

As described in the first full paragraph on page 8 of appellant's original specification, the covering zones 21, 22 can be non-stretchable in the circumferential direction.

As discussed in the paragraph bridging pages 5-7 of appellant's original specification, the covering zones are elastically stretchable in the circumferential direction and have a stretch stress higher than an stretch stress of the elastic zone when the elastic zone is stretched by 3-20% in a portion of the covering zones extending along the elastic zone and having a same width as the elastic zone.

As described in the second full paragraph on page 8 of appellant's original specification, the leg-holes can comprise covering zones integral with the crotch region and continuous elastic zones extending along a full length in a circumferential direction of each of the leg-holes. The elastic zones include third members that are elastically stretchable in the circumferential direction of each of the leg-holes and fourth members securing and covering the third members. The fourth member are inelastically stretchable to a length greater than the length in the circumferential direction of each of the leg-holes and joined to an outer side edge of each of the leg-holes as shown in Figs 1 and 2.

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1 - 6 are properly rejected under 35 U.S.C. §102(b) as being anticipated by Kato et al.

Whether claim 8 is properly rejected under 35 U.S.C. §103(a) as being unpatentable over

Kato et al. in view of Kimberly-Clark and Daniels.

### ARGUMENT

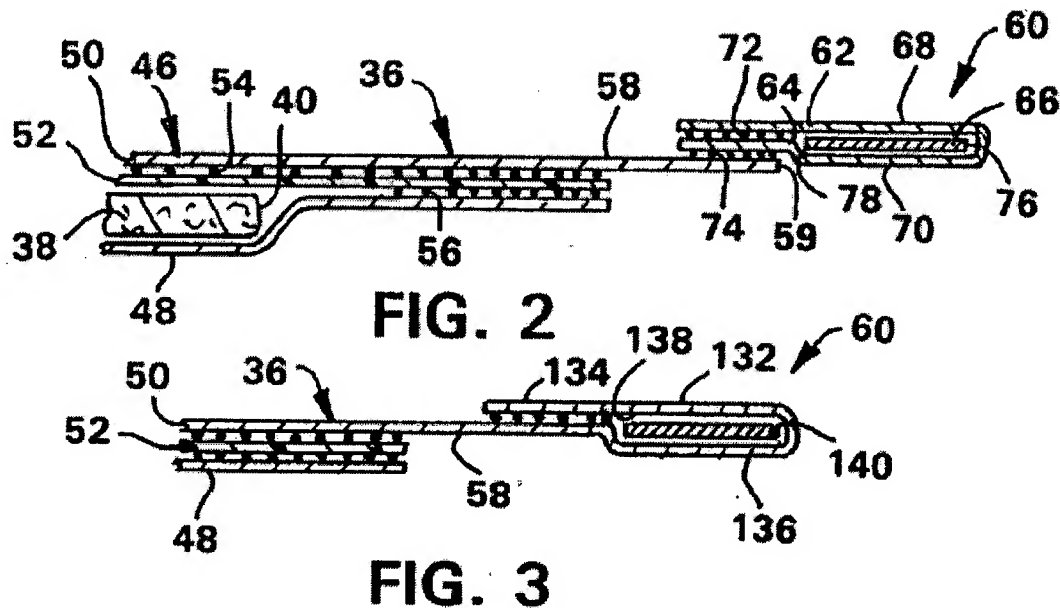
#### Rejection of Claims 1 - 6 Under 35 U.S.C. §102(b) as Being Anticipated by Kato et al.

Appellant respectfully urges that claims 1-6 patentably distinguish from the Kato et al. as the claimed subject matter is not anticipated by Kato et al. as required under 35 U.S.C. §102(b).

The examiner has relied upon Kato et al. as follows:

...the front waist region is 24, the rear waist region if 26, the crotch region is 28, the waist opening is 30, the leg openings are 32, the top sheet is 48 of one or more layers and the backsheet is 46 of one of more layers, e.g. 50, 52, the covering zone is at least a portion of 24 and 26 except for the elastic zone, the longitudinal end of the covering zone is 36, as best understood....and includes a terminal longitudinal edge which coincides with terminal longitudinal edges of each of the topsheet and backsheet.

In each of the embodiments shown in Figs. 1 and 2 of Kato et al., there is no structure that corresponds to appellant's topsheet and backsheet in which a covering zone includes a terminal longitudinal edge which coincides with terminal longitudinal edges of each of the topsheet and backsheet, as required by appellant's independent claim 1.



Note only a single extension 58 of outer layer 50 extends between the waist border 36 and the waist elastic system 60 in each embodiment shown in Figs. 2 and 3.

Recognizing that Kato et al. flails to teach a topsheet, backsheet and covering zone that terminate at coincidental terminal longitudinal edges, the examiner has attempted to relied upon Kato et al. in the paragraph bridging columns 32-33 and at column 33, lines 17-32, column 4, lines 55-60 and column 4, line 61 et seq. as teaching that the terminal edges of the topsheet and backsheet may coincide.

However, the examiner's reliance is based upon an improper interpretation of Kato et al.

The portions of Kato et al. that the examiner has relied upon are presented as follows:

Paragraph bridging columns 32-33:

Referring now to FIG. 6, a base layer 98 having opposite edge portions 102, 104 is continuously moved in a machine direction 100. Base layer 98 may be a single layer of material, or a laminate or composite comprising, for example in this description,

two layers that ultimately form outer layer 50 and inner layer 52 (FIG. 2). Base layer 98 may also be made of a material suitable for use as liner 48. A pair of adhesive applicators, such as adhesive spray nozzles 106, apply adhesives, such as adhesives 74 (FIG. 2), along opposite edge portions 102,104.

Column 33, lines 17-32:

A top layer 108 is continuously supplied on top of absorbent structures 38 and base layer 98. Just as base layer 98 may be made of a material or layers of material suitable for outer cover layer 46 or liner 48, top layer 108 may also be made of materials suitable for use as outer cover layer 46 or liner 48. In this particular description, top layer 108 is the liner. First elastic composite 97 and second elastic composite 112 are continuously delivered to base layer 98 so as to be positioned on respective edge portions 102, 104, and are joined thereto by adhesive beads 74 (FIG. 2). A pressure roller 110 presses elastic composites 97, 112, base layer 98, and, if desired, top layer 108, together to assist in joining the layers together. Top layer 108 may be smaller in transverse width than base layer 98, and thus may not be in contact with elastic composites 97,112. The elastic composites 97, 112 will form elongate sleeve member 62 (FIG. 2).

Column 4, lines 55-60:

Waist border 36 (FIG. 2) may also be a multi-layer structure comprising outer cover layer 46 and liner 48. Waist border 36 desirably includes an extension of one of the layers of chassis 22, for example, an extension of outer layer 50 (FIG. 2). This extension forms a peripheral edge portion 58 that peripherally surrounds waist opening 30.

Column 4, line 61 et seq.:

Although described above with reference to a specific design and materials, training pant 20 can have other designs or constructions. Examples of other representative training pants are disclosed in U.S. Pat. No. 4,940,464, the contents of which are incorporated by reference herein, and U.S. Pat. No. 4,641,381, the contents of which are incorporated by reference herein.



The examiner has specifically relied upon Kato et al. as teaching that the top layer 108 “may be smaller” in transverse width than base layer 98.

The examiner has also relied upon Kato et al. at column 4, lines 55-60 as teaching that the waist border 36 “desirably” includes an extension of one of the layers of chassis 22, for example, an extension of outer layer 50 (FIG. 2).

The examiner states that the statement that the top layer 108 “may be smaller” in transverse width than base layer 98 “infers [it] may not be smaller.”

The examiner states that the statement that the waist border 36 “desirably” includes an extension of one of the layers of chassis 22, for example, an extension of outer layer 50 (FIG. 2) “does not require extension of one of the layers.”

It seems that a prior art reference should only be relied upon for what it actually teaches and not for what it fails to exclude. Otherwise, paragraphs such as:

While this invention has been described as having preferred embodiments, it will be understood that it is capable of further modifications. This application is therefore intended to cover any variations, equivalents, uses or adaptations of the invention following the general principles thereof, and including such departures from the present disclosure as come within known or customary practice in the art to which this invention pertains and falls within the limits of the appended claims

found before the claims in Kato et al. could reasonably be interpreted as a “teaching” of all possible “further modifications” and “any variations, equivalents, uses or adaptations.”

This is certainly not the case as much as it is not the case that references to “desirably,” “preferably,” etc. present open-ended prior art teachings.

The concept of relying upon a reference as a whole and interpreting the teachings of a reference in context of the reference has been set forth in the CCPA's holding in *In re Wesslau* where the court of appeals clearly stated:

It is impermissible within the framework of Section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *In re Wesslau*, 147 USPQ 391, at 393 (CCPA 1965).

In the present situation the isolated portions of Kato et al. which the examiner has relied upon can more easily be interpreted (and more properly) as being consistent with the overall teachings of Kato et al., than be interpreted as allowing for structures and/or functions that Kato et al. does not teach or exclude.

Quite simply Kato et al teaches two embodiments of the waist portion of the pants which are shown in Figs. 2 and 3.

In Fig. 2 the elastic zone 60 is attached to a portion of the outer layer 50 (the examiner's "backsheet") which extends beyond the liner 48 (the examiner's "topsheet").

In Fig. 3 the elastic zone 60 is not nonmonolithically formed from the outer layer 50, but is rather formed from an extension of outer layer 50.

Clearly, neither of the embodiments shown in Figs. 2 or 3 is similar to appellant's claimed invention.

Kato et al. teaches two methods or processes for manufacturing the training pants.

Figure 4 depicts a method of process for manufacturing training pants that have the elastic zone structure depicted in Fig. 3, i.e. in which the elastic zone 60 is formed by folding a portion of outer layer 50 (base layer 142 in Fig. 4) that extends beyond liner 48 (top layer 150 in Fig. 4). Note at column 34, lines 39-40 Kato et al. expressly states: "With reference to FIG. 4, a description will be made of one method for making the modification in FIG. 3."

Figure 6 depicts a method or process for manufacturing training pants that have the elastic zone structure depicted in Fig. 2, i.e. in which the elastic zone 60 is attached to a portion of the outer layer 50 (base layer 98 in Fig. 6) that extends beyond the edges of liner 48 (top layer 108 in Fig. 6). Note the repeated reference to the method of process of Fig. 6 being used to form the embodiment shown in Fig. 2.

Note specifically that at column 2, lines 56-59 Kato et al. state that:

FIG. 4 is a schematic diagram illustrating one method for making an embodiment similar to that in FIG. 3;

FIGS. 5 and 6 schematically illustrate one method for making an embodiment similar to that in FIG. 2

Once it is recognized that Kato et al. teaches only the two embodiments shown in Figs. 2 and 3 and only teaches two methods or processes for making the embodiments, it becomes clear that the portions of Kato et al., which the examiner relies upon only refer to the two embodiments.

For example at column 33, lines 29-32 Kato et al. states:

Top layer 108 may be smaller in transverse width than base layer 98, and thus may not be in contact with elastic composites 97, 112. The elastic composites 97, 112 will form elongate sleeve member 62 (FIG. 2).

The reference “may be smaller” has to be considered in the context of “may be smaller... **and thus...** [may not be in contact with elastic composites 97,112].”

It is important to recognize that Kato et al. expressly teaches that:

The present invention provides an improved waist elastic system for children's training pants that results in a substantially uniform low tension along the peripheral border of the waist opening over a wide size range, a more comfortable fit, and improved ease of use by the child over an extended period of use. This is accomplished by, among other things, reducing the number of layers of material, i.e., the mass or amount of material, that the waist elastic system must gather. The more material there is to gather, the more the elasticity will be degraded or reduced in gathering the excess material. The present invention reduces this number of layers or amount of material to be gathered by incorporating an elastic member in, for example, one layer of material, thereby reducing loss of elasticity. (Column 4, lines 2-15)

and:

Desirably, waist elastic system 60 is joined to only one of the layers comprising chassis 22, such as outer layer 50. (Column 5, lines 19-21)

Clearly the express teachings of Kato et al. conform to the two embodiments shown in Figs. 2 and 3 and the method or process of manufacturing these two embodiments as shown in Figs. 4-6.

If anything, Kato et al. expressly teaches away from the attaching the elastic zone 60 to a portion of the diaper body where the inner layer 52, outer layer 50 and liner 48 would overlap or extend co-extensively.

As specifically recognized by Kato et al. such a modification would require the elastic zone 60 to be joined to two or more layers with the adverse affect of increasing the “number of layers or

amount of material to be gathered by incorporating an elastic member in, for example, one layer of material, thereby reducing loss of elasticity.” (Kato et al., column 4, lines 12-15)

Since Kato et al. does not specifically teach such a modification (and in fact teaches against it), at best the examiner could only urge that such a modification was obvious. Kato et al. clearly does not anticipate appellant’s claimed invention.

Moreover, under the Board or Appeals’ holding in *Ex parte Hartmann* that:

References cannot properly be combined if effect would destroy invention on which one of reference patents is based. *Ex parte Hartmann*, 186 USPQ 366 (PTO Bd App 1974)

appellants submit that such a modification to Kato et al. would destroy the goal of Kato et al. to reduce “the number of layers of material, i.e., the mass or amount of material, that the waist elastic system must gather” and “thereby reduce[e] loss of elasticity.”

From the above, it can be readily concluded that Kato et al. does not teach the limitation in appellant’s independent claim 1 that requires the “covering zone further including a terminal longitudinal edge which coincides with terminal longitudinal edges of each of said topsheet and backsheet.”

Moreover, it is submitted that Kato et al. actually teaches away from a structure having a covering zone that includes a terminal longitudinal edge which coincides with terminal longitudinal edges of each of a topsheet and backsheet.

Therefore, Kato et al. flails to anticipate appellant’s claimed invention.

Rejection of Claim 8 Under 35 U.S.C. §103(a) as Being Unpatentable over Kato et al. in View of Kimberly-Clark and Daniels

The examiner has relied upon each of Kimberly-Clark and Daniels et al. as teaching elastic systems for leg openings.

The examiner's further reliance upon each of Kimberly-Clark and Daniels et al. does not address or overcome the differences between the present invention and Kato et al. as discussed above.

Moreover, it is noted that the portion of Kimberly-Clark which the examiner relies upon merely teaches that:

An elastic legband 106 can be suitably joined to a legborder 108 in a manner similar to the joining of front waistband member 64 to front waistborder section 42 (Fig. 5).  
(page 7, lines 7-9)

This only teaches how to join the legband to the legborder and is not directed to the structure of the legband.

In any event, the Examiner has withdrawn her previous reliance upon Kimberly-Clark as a primary reference, supposedly because Kimberly-Clark did not teach the structure of appellant's elastic waist area - which is similar in structure to the elastic leg opening areas.

Daniels et al. teach "gathers 12" that are "stretched to the periphery of the constriction shown in FIG. 3 and gather the sides to give them an elastic edge portion sewed to threads 13."

This disclosure does not make it clear if the sewed threads 13 are elastic and impart a stretchability to the "gathers 12" or if there is some other, undisclosed structure.

In any event, Daniels et al. cannot be relied upon to meet the limitations of appellant's claim 8.

### CONCLUSION

For the reasons advanced above, Appellant respectfully contends that the rejection of claims 1-6 as being anticipated by Kato et al under 35 U.S.C. §102(b) is improper because the examiner has not met the burden of establishing that Kato et al teaches all the elements of appellant's claimed invention.

Further for the reasons advanced above, Appellant respectfully contends that the rejection of claim 8 as being unpatentable over Kato et al. in view of Kimberly-Clark and Daniels under 35 U.S.C. §103(a) is improper because the examiner has not met the burden of establishing a prima facie case of obviousness of appellant's claimed invention.

Reversal of the rejections on appeal is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of

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time fees, to Deposit Account No. 12-2136 and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael S. Gzybowski". The signature is fluid and cursive, with the first name "Michael" being the most prominent.

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178437.1



CLAIMS APPENDIX

Claim 1. A disposable diaper comprising:

a topsheet;

a backsheet;

a front waist region extending between and to transversely opposite side edges of the disposable diaper;

a rear waist region extending between and to the transversely opposite side edges of the diaper;

a crotch region located longitudinally between the front waist region and the rear waist region;

a waist-hole; and

a pair of leg-holes, said diaper further comprising:

at least one of said front and rear waist regions including a covering zone formed integrally with said crotch region, said covering zone including a longitudinal end at which longitudinal ends of each of said topsheet and backsheet are superimposed together continuously between the transversely opposite side edges of the diaper without any intervening structure between the topsheet and backsheet, said covering zone further including a terminal longitudinal edge which coincides with terminal longitudinal edges of each of said topsheet and backsheet, said at least one of said front and rear waist regions further including an elastic zone extending continuously along a full length in a circumferentially direction of said at least one of said front and rear waist regions to define at least

part of said waist-hole, said elastic zone having a width defined in a longitudinal direction and attached to said covering zone so that a major portion of the width of said elastic zone extends beyond the terminal longitudinal edge of said covering zone, said elastic zone being nonmonolithically formed with the covering zone,

said elastic zone including a first member that is elastically stretchable in said circumferential direction of said at least one of said front and rear waist regions to a length greater than a transverse length of said covering zone, said first member extending between and to the transversely opposite side edges of the diaper, and a second member covering said first member, said second member also extending between and to the transversely opposite side edges of the diaper; and

said second member being inelastically stretchable to a length greater than the transverse length of said covering zone and attached to the terminal longitudinal edge of said covering zone so as to form gathers that extend along the entire length of said at least one of said front and rear waist regions in the circumferential direction between and to each of the opposite side edges of the diaper.

Claim 2. The diaper according to Claim 1, wherein said first member comprises at least one rubber ribbon.

Claim 3. The diaper according to Claim 1, wherein said second member comprises a sheet material having an initial length greater than the length of said covering zone in said circumferential direction of said at least one of said front and rear waist regions and formed in said circumferential

direction with gathers in order to shorten said sheet material substantially to said length of said covering zone.

Claim 4. The diaper according to Claim 1, wherein said second member comprises a sheet material having a length substantially equal to the length of said covering zone in said circumferential direction of said at least one of said front and rear waist regions and inelastically stretchable in said circumferential direction.

Claim 5. The diaper according to Claim 1, wherein said covering zone is non-stretchable in said circumferential direction of said at least one of said front and rear waist regions.

Claim 6. The diaper according to Claim 1, wherein said covering zone is elastically stretchable in said circumferential direction and has a stretch stress higher than an stretch stress of said elastic zone when said elastic zone is stretched by 3-20% in a portion of said covering zone extending along said elastic zone and having a same width as said elastic zone.

Claim 7 (Canceled)

Claim 8. The diaper according to Claim 1, wherein each of said leg-holes comprises a covering zone integral with said crotch region and a continuous elastic zone extending along a full length in a

circumferential direction of each of said leg-holes, said elastic zone including a third member that is elastically stretchable in said circumferential direction of each of said leg-holes and a fourth member securing and covering said third member, said fourth member being inelastically stretchable to a length greater than said length in said circumferential direction of each of said leg-holes and joined to an outer side edge of each of said leg-holes.

EVIDENCE APPENDIX

1. *In re Wesslau*, 147 USPQ 391, at 393 (CCPA 1965). (Copy attached)
2. *Ex parte Hartmann*, 186 USPQ 366 (PTO Bd App 1974). (Copy attached)

RELATED PROCEEDINGS APPENDIX

None

1931), is inapposite since the acceptable evidence in that case clearly showed that the defendant had no access to plaintiff's work.

[4] At the hearing on this motion, the defendant claimed that the plaintiff's plaques did not contain proper notices of copyright. The claim is without merit. Notices appear on the sides of the plaques; it is not required to place the notice on the face. *Coventry Ware, Inc. v. Reliance Picture Frame Co.*, 288 F.2d 193, 129 USPQ 83 (2nd Cir.), cert. denied 368 U.S. 818, 131 USPQ 499 (1961).

I conclude that there is no genuine issue as to any material fact.

The motion for summary judgment is granted with costs against defendant.

A motion by plaintiff for the defendant to pay certain expenses and attorney's fees because of the defendant's failure to attend and proceed with the taking of a deposition noticed by the defendant has previously been denied. Memorandum endorsed September 22, 1965.

The present application of plaintiff for an allowance for legal services is denied.

The question of damages is reserved pending report of a Commissioner, if one is to be appointed.

Settle judgment on notice.

as a whole would have been obvious to one of ordinary skill in the art following teachings of prior art at time invention was made; it is impermissible within framework of section 103 to choose from any one reference only so much of it as will support a given position, to exclusion of other parts necessary to full appreciation of what reference fairly suggests to one of ordinary skill in the art.

#### Particular patents—Polyethylene

Wesslau, Process for the Production of Polyethylene with Narrow Distribution of the Molecular Weight, claims 35 to 43 of application allowed.

Appeal from Board of Appeals of the Patent Office.

Application for patent of Hermann Wesslau, Serial No. 753,872, filed Aug. 8, 1959; Patent Office Group 140. From decision rejecting claims 35 to 43, applicant appeals. Reversed.

ARNOLD SPRUNG, New York, N.Y., and ARNOLD B. CHRISTEN, Washington, D. C., for appellant.

CLARENCE W. MOORE (FRED W. SHERLING of counsel) for Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Associate Judges.

ALMOND, Judge.

This appeal is from the decision of the Board of Appeals affirming the rejection of claims 35-43<sup>1</sup> in appellant's application<sup>2</sup> entitled "Process for the Production of Polyethylene With Narrow Distribution of the Molecular Weight." No claims have been allowed.

The invention relates to a process of polymerizing ethylene utilizing a Ziegler-type catalyst system to produce solid polyethylene. Both appellant and the Patent Office have treated the appealed process claims as standing or falling together, and we will do the same. Claim 35, from which the remaining claims depend, is illustrative and reads as follows:

35. In the process of polymerizing ethylene to a solid polymer having a high molecular weight and a narrow molecular weight distribution range, the improvement which comprises polymerizing ethylene in the presence of a polymerization catalyst con-

<sup>1</sup> Appellant withdrew the appeal with respect to the only product claim 44, which was drawn to a polyethylene having a narrow molecular weight distribution characterized by a nonuniformity value U of magnitude between 2 and 4.

<sup>2</sup> Serial No. 753,872, filed August 8, 1958.

53 CCPA

#### Court of Customs and Patent Appeals

In re WESSLAU

Appl. No. 7447 Decided Nov. 26, 1965

#### PATENTS

##### 1. Patentability—Composition of matter (§ 51.30)

Claims to process of polymerizing ethylene are not rejected on theory that applicant's catalyst system can be met merely by substitution of groups from two prior patents on the corresponding components of a third prior system since no one of the references suggests such a substitution, quite apart from the result which would be obtained thereby; such piecemeal reconstruction of prior art patents in light of applicant's disclosure is contrary to 35 U.S.C. 103.

##### 2. Patentability—Invention—In general (§ 51.501)

Question in cases within ambit of 35 U.S.C. 103 is whether subject matter

sisting essentially of a mixture of titanium trichloride, at least one compound of tetravalent titanium  $Ti(R)_4$ , and at least one organic aluminum compound soluble in a liquid hydrocarbon and having the general formula  $R'Al(R)_3$ , in which  $R'$  is alkyl and  $R$  is selected from the group consisting of halogen, alkoxy and aroxy radicals, wherein between said tetravalent titanium compound and said organic aluminum compound there is present in said mixture at least one halogen atom and at least one member selected from the group consisting of alkoxy and aroxy radicals.

According to appellant's disclosure, polyethylene of high molecular weight may be produced by what has become known in the art as the Ziegler polymerization process. Analysis of the polyethylene so produced has revealed that although the average molecular weight of the polymer is high, a fairly large proportion of the individual polymer chains have a relatively low molecular weight. These low molecular weight fractions are particularly unfavorable for such properties as impact bending strength, rubbing, and fatigue. Appellant has discovered that the proportion of the lower molecular weight chains can be reduced, thereby narrowing the molecular weight distribution, by employing a three-component catalyst system in which either the  $Ti(R)_4$  or  $R'Al(R)_3$  contains an alkoxide or aroxide moiety.

The references relied on are:

Anderson 2,862,917 December 2, 1958

Muehlbauer 2,905,661 September 22, 1959

Ruhrchemie (Belgian) 553,694 June 24, 1957

The Ruhrchemie patent relates to a process for producing polyethylene of a desired molecular weight employing certain specified catalyst systems. The pertinent portion of the patent specification reads as follows:

\*\*\* when high molecular weight [polyethylene] products are to be obtained \*\*\* the employed mixtures consist of aluminum alkyl compounds and/or halides of aluminum alkyl with quantities of titanium trichloride of at least 0.01 mole \*\*\* and quantities of titanium tetrachloride lower than 0.01 mole \*\*\*; on the other hand, when materials having low molecular weight are to be obtained the employed mixtures consist of aluminum alkyl and/or

halide of aluminum alkyl with more than 0.1 mole \*\*\* of titanium tetrachloride per mole of aluminum alkyl and/or halide of aluminum alkyl, and with titanium trichloride at the rate of at least 0.1 mole, preferably 0.3-1 mole approximately per mole of aluminum alkyl and/or halide of aluminum alkyl.

The Anderson patent relates to a process of polymerizing ethylene whereby control over the weight average molecular weight of the polymer and the molecular weight distribution of the polymer is achieved by adhering to process conditions which insure the solubility of the ethylene during polymerization. The process employs coordination catalysts of titanium:

\*\*\* obtained by admixing a trivalent or tetravalent titanium compound of the class consisting of titanium salts and titanium alkoxides with a compound having at least one metal-to-hydrocarbon bond, such as metal alkyls, suitable compounds being lithium aluminum alkyls, aluminum alkyls, Grignard reagents, alkyl aluminum halides, tin alkyls, etc. \*\*\*

Anderson further states:

\*\*\* the steady state compliance [an indicia of molecular weight distribution] will vary from 3 to 7 when the critical conditions of the process of the present invention are maintained and will rise to a range of 12 to 28 when the polymerization is carried out at conditions other than required by the process of the present invention. \*\*\*

Muehlbauer relates to a process for producing high molecular weight polyolefins employing a two-component catalyst system consisting of certain metal halides and a compound of the formula  $XAlR(OR')$ , where  $X$  is halogen, and  $R$  and  $R'$  are the same or different alkyl, cycloalkyl, or aryl radicals. Titanium trichloride and titanium tetrachloride are specifically disclosed as suitable metal halides.

The sole issue in this case is obviousness under 35 U.S.C. 103.

Appellant's principal contention is that:

\*\*\* since none of the reference[s] either singly or in combination teach a control of the molecular weight distribution range by specific selection of catalyst components, or even that the nature or composition of the catalyst could have an effect on this molecular weight distribution range, the subject matter of the invention as a whole could not possibly be obvious from the references. \*\*\*



We agree. Appellant's specification contains ten examples in which various three-component catalyst systems were utilized in the polymerization of ethylene. The systems set forth in three of these examples consisted of (1) titanium trichloride, (2) titanium tetrachloride, and (3) diethyl aluminum monochloride in various molar ratios. These fall within the catalyst systems disclosed by Ruhrchemie. The U value, which according to appellant's specification is a measure of the molecular weight distribution, ranges from 6.3 to 12.8 for such catalysts. In the remaining seven examples, catalyst systems covered only by the appealed claims were employed, with the nonuniformity value U<sup>3</sup> for the resultant polyethylene ranging from 2.6 to 3.9. We believe this to be a convincing demonstration that the alkoxide or aroxide moiety, when present in the catalyst systems of the appealed claims, possesses the property of conferring a significant degree of control over the ultimate molecular weight distribution of polyethylene. This property is neither taught nor suggested by the prior art.

The reasoning of the examiner and the board appears to be as follows: Ruhrchemie discloses a titanium trichloride-titanium tetrachloride-monoethyl aluminum dichloride system. This differs from appellant's system only in the latter's use of an alkoxide or aroxide group on either the tetravalent titanium or aluminum component or both. Since Anderson shows a tetravalent titanium compound containing an alkoxide group and Muehlbauer shows an aluminum compound containing an alkoxide group, appellant's catalyst system can be met merely by substitution of such alkoxide groups on the corresponding components of the Ruhrchemie system.

[1] The fallacy of this reasoning is that no one of the references suggests

such a substitution, quite apart from the result which would be obtained thereby. Such piecemeal reconstruction of the prior art patents in the light of appellant's disclosure is contrary to the requirements of 35 U.S.C. 103. *In re Rothermel*, 47 CCPA 866, 276 F.2d 393, 125 USPQ 328.

[2] The ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the teachings of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The Anderson patent is the only reference before us which recognizes the desirability of producing polyethylene with a narrow molecular weight distribution range. Were one to follow the teachings of that patent in its entirety, he would be led to believe that control over the molecular weight distribution of polyethylene was gained independently of the catalyst system, a belief untenable in light of appellant's disclosure.

Both the board and the solicitor apparently assert the position that it is incumbent upon appellant to show that his results are outstanding as compared with the results accomplished by Anderson and Muehlbauer. If this is construed as requiring appellant to show unexpected results accruing from his claimed process, we think he has met the requirement. We perceive no teaching in the prior art of record suggesting that an alkoxide or aroxide moiety in a Ziegler-type catalytic system would produce the results obtained by appellant's process.

The decision of the board is reversed.

<sup>3</sup> Appellant's specification contains the following description of the nonuniformity value U:

" \* \* \* the so-called non-uniformity is used for characterising the range of distribution of the molecular weights. According to G. V. Schulz in H. A. Stuart's *Die Physik der Hochpolymeren*, 2nd vol., the macromolecule in solutions is given on page 754 as:

$$U = \frac{\overline{M}_w}{\overline{M}_n} - 1.$$

$\overline{M}_w$  and  $\overline{M}_n$  can be calculated from the molecular weight distribution by current methods (G. V. Schulz and M. Marx: *Makromolekulare Chemie* XIV (1954), pages 53-64).

likelihood that the mark would "falsely suggest a connection with persons, living or dead, institutions, beliefs, or national symbols or bring them into contempt or disrepute." We cannot give the term "may" a broad and indefinite meaning so encompassing as to contravene the evidence presented.

[3] Since we find that the evidence presented is persuasive at this time that there is no reasonable likelihood of a false suggestion with a governmental institution or "national symbol", we conclude that the mark should be published in the Official Gazette in accordance with Section 12(a).

#### Decision

The refusal to register by the Examiner of Trademarks is reversed.

#### Patent and Trademark Office Board of Appeals

Ex parte Hartmann

Patent issued Nov. 12, 1974

Opinion dated Apr. 26, 1974

#### PATENTS

##### 1. Words and phrases (§70.)

"Partial drawing" is intentional, positive act over and above any incidental elongation arising from handling of filaments.

##### 2. Patentability — Invention — In general (§51.501)

###### Patentability — Anticipation — Combining references (§51.205)

References cannot properly be combined if effect would destroy invention on which one of reference patents is based.

##### 3. Claims — Article defined by process of manufacture (§20.15)

###### Patentability — Subject matter for patent monopoly — Process, product, and apparatus (§51.613)

Product-by-process claim may be used if language is not vague and indefinite.

##### 4. Board of Appeals — Procedure and practice (§19.45)

Patent and Trademark Office Board of Appeals will follow rulings of Court of Customs and Patent Appeals rather than inconsistent portions of Manual of Patent Examining Procedure.

#### Particular patents — Plastic Film

3,847,729 Hartmann, Deep-Drawable Plastic Composite Comprising Plastic Film on Fibrous Support, claims 1-3 and 5-12 allowed.

#### Appeal from Group 160.

Application for patent of Ludwig Hartmann, Serial No. 3,129, filed January 15, 1970. From decision rejecting claims 1-3 and 5-12, applicant appeals (Appeal No. 141-93). Reversed; McKelvey, Acting Examiner in Chief concurring with opinion.

Johnston, Keil, Thompson & Shurtleff and Herbert B. Keil, both of Chicago, Ill., for applicant.

Before Schneider and Serota, Examiners in Chief, and McKelvey, Acting Examiner in Chief.

Schneider, Examiner in Chief.

This appeal is from the final rejection of claims 1, 2, 3, and 5 to 12. Claim 4 was withdrawn from further consideration as being directed to a nonelected invention.

Claims 1 and 9 are representative:

1. Deep-drawable composite comprising:

a) a plastic film of deep-drawable plastic,

b) a non-woven fleece consisting essentially of partially drawn and further drawable filaments which are drawable upon deep-drawing of the plastic film,

c) said plastic film coating said fleece.

9. Deep-drawable composite comprising:

a) a plastic film of deep-drawable

b) a non-woven fleece consisting essentially of randomly disposed partially drawn and further drawable continuous monofilaments formed by gas stream drawing and collected to form the nonwoven fleece, said continuous monofilaments having an elongation to breakage of about 100-400%, and being bonded together with a binding agent,

c) said plastic coating said fleece.

The references relied on are:

Graham et al.  
Reynolds

2,715,591  
3,158,525

Aug. 16, 1955  
Nov. 24, 1964

Claims 1 and 5 to 8 stand rejected under 35 U.S.C. 102 as anticipated by Graham et al. We will not sustain this rejection. In our opinion these claims are not fully met by Graham et al. The claims recite the filaments as "partially drawn" before being coated with a plastic filament. Not only does Graham et al. not teach this but, as recognized by the Examiner, Graham et al. teach the use of *undrawn* fibers. The examiner's arguments that appellant's claims are sufficiently broad to encompass essentially no partial drawing, or that a routineer would expect some orientation in the fibers from handling are not deemed to be persuasive. We believe that the routineer would construe "partial drawing" to mean an intentional, positive act over and above any incidental elongation arising out of normal handling of the filaments.

Claims 2, 3 and 9 to 12 stand rejected under 35 U.S.C. 103 as unpatentable over Graham et al. in view of Reynolds. We do not agree with this rejection.

[2] Reynolds teaches neither partial nor complete orientation of filaments in the film matrix. More importantly however, Reynolds cannot properly be combined with Graham et al. relative to the employment of continuous monofilaments, since to do so would destroy that on which the invention of Graham et al. is based, namely, the use of very short fibers. We will not sustain this rejection.

[3] Claims 9 to 12 were further rejected under 35 U.S.C. 112, presumably the second paragraph, as being "improper" product-by-process claims. We do not agree with this rejection.

The issue raised by the examiner is not "whether product-by-process claims are ever proper in this or any application, but whether they are proper when the product can be described without reference to the process." (Answer, page 4).

It is apparently the examiner's position that the instant composites can be defined apart from the method by which the fleece thereof is made in view of claim 1. Claim 1, however, is in itself a product-by-process claim in view of the process limitation "partially drawn".

In any event, assuming that the fleece of appellant's composite is capable of being defined apart from the method by which it is made, we nevertheless believe a product-by-process type claim may properly be used by appellant.

We recognize that the M.P.E.P. provides in Section 706.03(e) (3rd Ed., Rev. 39, 1974):

"Applicant must \* \* \* make a showing that the product cannot be described except by reference to the process of making it. \* \* \* Accordingly both product claims described by characteristics and product-by-process claims concurrently are inconsistent."

Our reviewing Court has made it plain that if an applicant is claiming what he regards as his invention (a point not here in issue), there is only one basic ground for rejecting a claim under the second paragraph of Section 112, namely, the language employed does not set out and circumscribe a particular area sought to be covered with a reasonable degree of precision and certainty. See e.g., *In re Moore*, 58 CCPA 1042, 439 F.2d 1232, 169 USPQ 236, 238 (1971); *In re Swinehart*, 58 CCPA 1027, 439 F.2d 210, 169 USPQ 226, 229 (1971).

Our reviewing Court has also made it plain that:

"\* \* \* a product-by-process claim, does not inherently conflict with the second paragraph of 35 U.S.C. 112." *In re Brown*, 59 CCPA 1036, 459 F.2d 531, 173 USPQ 685 (1972).

See also *In re Luck*, 476 F.2d 650, 177 USPQ 523 (CCPA 1973). In *In re Steppan*, 55 CCPA 791, 394 F.2d 1013, 156 USPQ 143 (1967), the Court states:

"The problem, in essence, is thus one of determining who shall decide how best to state what the invention is. By statute, 35 USC 112, Congress has placed no limitations on *how* an applicant claims *his invention*, so long as the specification concludes with claims which particularly point out and distinctly claim that invention."

See also *In re Pilkington*, 56 CCPA 1237, 411 F.2d 1345, 162 USPQ 145 (1969).

The examiner has not indicated, nor do we find, anything vague and indefinite about the language of claims 9 through 12. Accordingly, we see no basis for rejecting claims 9 through 12 as being drawn to so-called improper product-by-process claims.

[4] We recognize that the position we take is inconsistent with that portion of the M.P.E.P. quoted above. However, we are constrained to follow the ruling of our reviewing court (CCPA) with which the manual is at variance on this point. We will not sustain the rejection.

The decision of the Examiner is reversed.

McKelvey, Acting Examiner in Chief,  
concurring.

I agree with the disposition of each rejection and all that is stated in the principal opinion. In connection with our decision reversing the examiner's rejection of claims 9 through 12 as being so-called "improper" product-by-process claims, I wish to add the following observations.

In fairness, it must be recognized that in making the rejection, the examiner was following guidelines provided to him via the Manual of Patent Examining Procedure and, specifically, that portion of the Manual quoted in the principal opinion. However, as was pointed out in *Ex parte Schwarze*, 151 USPQ 426, 1966 C.D. 10 (Bd.App. 1966):

"The Manual of Patent Examining Procedure merely provides guidelines for examiners in the Patent Office. It does not replace, and is subservient to, applicable statutes, Rules of Practice, and prior decisions."

As I understand today's decision, this Board is holding, in effect, that the portion of the Manual quoted in the principal opinion is inconsistent with 35 U.S.C. 112, second paragraph, and, therefore, does not accurately state the law. With such a holding I am in complete agreement. Based on this decision, it follows that the quoted portion of the Manual is no longer viable. It also follows that an applicant may, if he chooses to do so, claim a composite in terms of a "product-by-process," provided the claim is definite, notwithstanding the fact the product might be capable of being claimed by reference to its characteristics.

Hauck, Ansorge, Begler & Krentz, New York, N. Y., for applicant.

[Editor's Note: This decision was designated by the Board to appear in digest form only.] Application for registration of trademark of Edward Weck & Company, Inc., Serial No. 431,869. Decision of Examiner of Trademarks refusing registration affirmed by decision (Leach, Waldstreicher, and Lefkowitz, Members) holding that applicant's "Dermaclip" is merely descriptive of devices for clamping skin together during operation.

**Patent and Trademark Office Trademark  
Trial and Appeal Board**

*In re Edward Weck & Company, Inc.*

Decided Apr. 17, 1975

**TRADEMARKS**

**Marks and names subject to  
ownership — Descriptive — Par-  
ticular marks (§67.5081)**

"Dermaclip" is merely descriptive of devices for clamping skin together during operation.